

AMENDMENTS TO THE CLAIMS

✓ The following is a complete listing of the revised claims with status identifiers in parenthesis.

Listing of the Claims

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1. (Currently Amended) A method for routing calls over a communications network from an origin location to a destination location associated with a call type, said calls comprising signaling data and traffic data, the method comprising the steps of:

receiving signaling data from a first switch serving the origin location;

determining said call type from said signaling data that has been received wherein said call type is characterized as a first call type or a second call type, the first call type being a non-IP based voice call type and the second call type being an IP based call type;

directing said signaling data to said destination location associated with said first or second call type that has been determined to establish a call; and

controlling a second switch serving said destination location to direct traffic data from the origin location to said destination associated with said first or second call type; the second switch configured to direct traffic data of the

first call type and the second call type.

2. (Original) The method of Claim 1 wherein said signaling data comprises an initial message and following messages.

3. (Previously Presented) The method of Claim 1 wherein said step of determining a call type further comprises the steps of:

decoding said signaling data;

determining a called directory number from said signaling data that has been decoded; and

matching said called directory number with an entry of a predetermined table correlating directory numbers, said call types, and said destination locations.

4. (Original) The method of claim 1 further comprising the step of:
creating a table, wherein each element of said table correlates a directory number with said call type and said destination location; and
storing said table.

5. (Original) The method of Claim 1 wherein said signaling data that has been received and said signaling data that has been directing are of a first protocol.

6. (Original) The method of Claim 1 wherein said signaling data that has been received is of a first protocol and said signaling data that has been directing is of a second protocol.

7. (Original) The method of Claim 1 wherein the step of directing said signaling data to said destination location associated with said call type that has been determined to establish a call further comprises the steps of:

forwarding said signaling data that has been received in a first protocol to a first destination network element, when said call type is characterized as said first call type;

translating said signaling data that has been received in said first protocol to corresponding signaling data of a second protocol, when said call type is characterized as said second call type; and

forwarding said signaling data of said second protocol to a second destination network element, when said call type is characterized as said second call type.

8. (Original) The method of Claim 7 wherein said first protocol is Signaling System Seven (SS7) and said step of forwarding is accomplished via a SS7 A-link.

9. (Original) The method of claim 7 wherein said second protocol is ISDN Primary Rate Interface (PRI) Q.931 and said step of forwarding is accomplished via a Primary Rate Interface.

10. (Canceled)

11. (Original) The method of claim 1 wherein said destination location is a class 5 circuit switch.

12. (Original) The method of claim 1 wherein said destination location is a remote access server.

13. (Currently Amended) The method of claim 1 wherein said step of controlling a second switch comprises the steps of:

sending an application programming interface command to said second switch; and

setting up a connection through said second switch to a port connected to said destination location according to said command.

14. (Original) The method of claim 12 wherein said connection is selected from the group consisting of switched connection and a soft Permanent Virtual Circuit connection.

15. (Original) The method of claim 1 wherein said second switch is an asynchronous transfer mode switch.

16. (Original) The method of claim 1 wherein call traffic data is distributed over a digitized voice transmission system selected from the group consisting of T1, E1, STS-1, DS-3, frame relay, native ATM, and Ethernet.

17. (Original) The method of claim 1 further comprising the steps of:
storing call detail information, when said call type is characterized as said second call type; and
transferring said call detail information that has been stored to a call accounting system.

18. (Original) The method of claim 17 wherein said call detail information is selected from the group consisting of call start time-stamp, call end time-stamp, called party directory number, called party sub-address, calling party directory number, calling party sub-address, disconnect reason,

inbound B channel, outbound B channel, inbound circuit identification code, outbound circuit identification code inbound node identification, and outbound node identification.

19. (Currently Amended) A destination call router for routing calls from an originating location to a destination location, the destination call router comprising:

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a first segment responsive to a first switch of a signaling network for determining a call type as a first call type or a second call type and commanding further action based on said call type, the first call type being a non-IP based voice call type and the second call type being an IP based call type; and

a second segment responsive to commands from said first segment for switching, using a second switch, received transmissions between a plurality of destination locations, [[each]] at least one destination location being associated with said first call type [[or]] and at least one destination location being associated with said second call type.

20. (Original) The designation call router of claim 19 wherein said first segment is operable to

receive call set-up information of a first protocol;

determine said call type from said call set-up information;

direct said call set-up information of said first protocol to a first location type destination location for said first call type and forward replies from said first location type destination location to said originating destination in order to establish a call;

translate said call set-up information of said first protocol to a second protocol for said second call type and direct said call set-up information of said second protocol to a second location type destination network element and forward to said originating destination in said first protocol replies in said second protocol from said second location type destination network element in order to establish a call;

control a switch to connect call data of said first call type to said first type destination network element and call data of said second call type to said second type destination network element.

21. (Original) The destination call router of claim 19 wherein said first segment comprises:

a Broadband Interworking Call Router.

22. (Currently Amended) The destination call router of claim 19 wherein ~~said seconds~~ second segment comprises:

a plurality of second switches, each second switch being an ATM switches switch.

23. (Currently Amended) An apparatus to provide network congestion relief for the public switched telephone network, the apparatus comprising:

a receiver for receiving call set-up information of a first protocol from a first switch;

a first processing unit for determining a call type from said received information;

a second processing unit for translating said call set-up information of said first protocol to a second protocol, when said call type is characterized as a second call type;

a transmitter for forwarding

a) said call set-up information of said first protocol to a first location type destination network element when said call type is characterized as a first call type and

b) said call set-up information of said second protocol to a second location type destination network element when said call type is characterized as a second call type, the first call type being a non-IP based voice call type and the second call type being an IP based call type; and

means for controlling a second switch serving a destination location to connect call data of said first call type to said first type destination network element and call data of said second call type to said second type destination network element.

24. (Original) The apparatus of claim 23 further comprising:
means for associating call set-up information with one of a plurality of destination network elements; and
means for storing said associated call set-up information.

25. (Original) The apparatus of claim 23 further comprising:
means for distinguishing received call set-up information as being associated with one of a plurality of destination network elements of a predetermined destination type.

26. (Currently Amended) The apparatus of claim 23 further comprising:
means for associating one of said plurality of destination network elements with one of a plurality of second switches; and
means for storing said association.

27. (Original) The apparatus of claim 23 further comprising:

means for distinguishing said destination network elements as being associated with one of a plurality of second switches of a predetermined destination type.

28. (Original) The apparatus of claim 23 wherein said first processing unit comprises:

a decoder for decoding said call set-up information of a first protocol;

an isolator means for determining the called directory number contained in said received call set-up information; and

a subprocessor for performing a routing table lookup of said determined called directory number on a predetermined table of directory numbers associated with calls of said second call type and setting said type of call as said second type if a matching directory number is looked up and as said first type if no matching directory number is looked up.

29. (Original) The apparatus of claim 23 wherein said first call type is a voice call and said second call type is a data call.

30. (Original) The apparatus of claim 23 wherein said second processing unit comprises:

means for converting SS7 call set-up information to the corresponding ISDN Q.931 call set-up information.

31. (Previously Presented) The apparatus of claim 30 wherein said transmitter comprises:

means for transferring said Q.931 information across a Primary Rate interface to said second type destination network element.

32. (Original) The apparatus of claim 23 wherein said first type destination network element is a generic circuit switch.

33. (Original) The apparatus of claim 23 wherein said second type destination network element is a remote access server.


34. (Original) The apparatus of claim 23 wherein said means for controlling a second switch to route call data comprises:

means for sending an application programming interface command to said second switch; and

means for setting up a connection through said second switch to a port connected to said destination network element according to said received command.

35. (Original) The apparatus of claim 23 wherein said second switch is an asynchronous transfer mode switch.


36. (Original) The apparatus of claim 23 wherein said call data is distributed over a digitized voice transmission system selected from the group consisting of T1, E1, STS-1, DS-3, frame relay, native ATM, and Ethernet.

 37. (Original) The apparatus of claim 23 further comprising:
means for storing call detail information when said determined call type is of said second type; and
means for transferring said stored call detail information to a call accounting system.

38. (Original) The apparatus of claim 37 wherein said stored call detail information is selected from the group consisting of call start time-stamp, call end time-stamp, called party directory number, called party sub-address, calling party directory number, calling party sub-address, disconnect reason, inbound B channel, outbound B channel, inbound circuit identification code, outbound circuit identification code, inbound node identification, and ~~outbound node identification.~~

39. (Currently Amended) A destination call router for directing voice and data calls across the PSTN to call destinations and for providing network congestion relief for data calls, said calls including signaling and traffic from a first switch serving an originating location, said destination call router comprising:

a plurality of asynchronous transfer mode switches, each asynchronous transfer mode switch being a second switch serving a destination location; and

 a Broadband Interworking Call Router (BICR) connected with said asynchronous transfer mode switches, said BICR intercepting signaling of a first or second protocol from a first switch, said BICR translating signaling to a second protocol when receiving signaling for said data calls in said first protocol, said BICR and routing said intercepted signaling to said call destinations, controlling said plurality of asynchronous transfer mode switches to direct traffic to said destinations.

40. (Currently Amended) A method for routing calls over a communications network from an origin location to a destination location associated with a call type, said calls comprising signaling data and traffic data, the method comprising the steps of:

receiving signaling data from a first switch serving the origin location;

determining said call type from said signaling data that has been received wherein said call type is characterized as a first call type or a second call type the first call type being a non-IP based voice call type and the second call type being an IP based call type;

translating said signaling data associated with said first call type from a first protocol to a second protocol associated with said second call type;

directing said signaling data to said destination location associated with said first or second call type that has been determined to establish a call; and

controlling a second switch serving said destination location to direct traffic data from the origin location to said destination associated with said first or second call type; the switch configured to direct traffic data of the first call type and the second call type.

41. (Currently Amended) A destination call router for routing calls from an originating location to a destination location comprising:

a first segment responsive to a first switch of a signaling network for determining a call type as a first call type or a second call type and commanding further action based on said call type, the first call type being a non-IP based voice call type and the second call type being an IP based call type; and for translating a call determined to be the first call type associated

with a first protocol into a second protocol associated with the second call type;
and

for
a second segment responsive to commands from said first segment for
switching, using a second switch, received transmissions between a plurality of
destination locations, [[each]] at least one destination location being associated
with said first call type [[or]] and at least one destination location being
associated with said second call type.
